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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF: **WU-16J**

August 11, 2000

William Child, Chief
Bureau of Land
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Dear Mr. Child:

As you recall, on June 15-16, 2000, we conducted an audit of the Illinois EPA's Underground Injection Control (UIC) Program. The U.S. EPA audit team consisted of me, Valoria Robinson, Harlan Gerrish and Jeff McDonald.

We have completed our draft audit report which includes our findings, recommendations and conclusions. I ask that you and your staff review our enclosed draft report for accuracy and provide us with your written comments, if any, by August 28, 2000. If we receive no written comments from you by August 28, then we will finalize this draft report as is.

We appreciate your cooperation and assistance during our audit. If there are any questions, please contact me at (312) 353-2446 or Valoria Robinson, of my staff, at (312) 886-4281.

Sincerely yours,

Valerie J. Jones, Chief
Underground Injection Control Branch

Enclosure

cc: Thomas V. Skinner, Director, Illinois EPA
James B. Park, Chief, Bureau of Water, Illinois EPA
Roger D. Selburg, Manager, Division of Public Water Supplies, Illinois EPA
Joyce Munie, Manager, Permit Section, Bureau of Land, Illinois EPA
James B. Filson, Illinois EPA's UIC Program Coordinator

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U.S. EPA, REGION 5'S DRAFT AUDIT REPORT OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY UNDERGROUND INJECTION CONTROL PROGRAM

EXECUTIVE SUMMARY

On March 3, 1984, the U.S. EPA granted primary enforcement authority to the Illinois Environmental Protection Agency (Illinois EPA) for administering the Federal Underground Injection Control (UIC) Program to regulate Class I, III, IV, and V wells in Illinois.

At Illinois EPA's request, a conference call was held on March 24, 2000 between management and staff of Illinois EPA and U.S. EPA, Region 5 to discuss state adoption of the new Class V rules; updating the State's UIC primacy package to incorporate these new rules and requirements; and, a strategic plan that details how the state will implement the new rule. However, during the course of the call, Illinois EPA stated that they would not implement the new Class V well program as well as update their rules and regulations due to a lack of resources. At the conclusion of the call, it was mutually agreed by both parties that an on-site audit of their UIC program needed to occur since no comprehensive file audit had been conducted by the U.S. EPA since 1992. The minutes of the March 24, 2000, conference call between Illinois EPA and U.S. EPA are included as Attachment 1 to this report.

On June 15-16, 2000, management and staff in U.S. EPA, Region 5's UIC Branch audited the Illinois EPA's UIC program at their Central Office located in Springfield, Illinois. This report presents the findings and recommendations as a result of that comprehensive file audit. Overall, the Illinois EPA's UIC program for Class I and Class V wells was found to be in need of major improvement in meeting the minimum U.S. EPA requirements.

For the Class I well program, files were reviewed which showed Illinois EPA had failed to reissue permits that had expired, in some instances, more than eight years ago; Illinois EPA had failed to independently determine whether underground sources of drinking water and public health were being protected at the LTV Steel facility; and, Illinois EPA had failed to adequately document their official records with the appropriate field inspection results and enforcement related actions for several wells.

For the Class V well program, the file review and interviews conducted with management and staff showed Illinois EPA was failing in establishing an effective program to regularly identify, inventory and track the status of all Class V injection well activities. The Illinois EPA was unable to provide U.S. EPA with their specific written procedures and process for the overall administration and coordination of the Class V well program, both internally at Illinois EPA as well as externally with other state agencies that share Class V well program responsibilities. The Illinois EPA identified the Illinois Department of Public Health, the Illinois EPA Office of Chemical Safety, and the Illinois EPA Office of Public Water Supply as having some shared

Class V well program responsibilities. However, the Illinois EPA attempted to describe their complex procedures and process to U.S. EPA. Finally, the Illinois EPA could not provide the U.S. EPA with their specific written procedures describing how they were conducting education and outreach to the regulated Class V well community and to affected local municipal officials. The Illinois EPA's response was that they lack the necessary resources to implement the minimum Federal UIC program requirements for the new Class V well program and would need twenty-one additional employees to do so.

The specific areas needing improvement are discussed in greater detail in the following sections, including U.S. EPA's recommendations and timeframes for Illinois EPA to demonstrate improvement in the overall administration of their UIC program. The UIC regulations at 40 CFR Parts 145.33 and 145.34 outline the criteria and procedures for withdrawal of State programs when it has been determined by the U.S. EPA that the State program is not in compliance with the requirements of the Safe Drinking Water Act and the UIC regulations.

A. PROGRAM ADMINISTRATION

1. Overall Observations and Discussion:

The Illinois EPA's UIC program commitments are located on pages 41, 42, 47, 49, 57, 70, 71, 72 and 73 in the FY 2000 Environmental Performance Partnership Agreement [EnPPA] between Illinois EPA and U.S. EPA, Region 5. The Illinois EPA's Bureau of Land has been designated by the Director of Illinois EPA to lead the overall coordination and administration of the UIC program with the other Illinois EPA program offices, legal staff and district offices as well as with other state agencies, such as the Illinois Department of Public Health. Based on U.S. EPA's interviews with Illinois EPA's management and staff, there appears to be about 0.5 full-time equivalents (FTEs) annually performing the coordination and permit administration functions in the Central Office. This includes management and staff time. However, the Illinois EPA has indicated that the majority of the primary core UIC program functions are performed in the district offices and it is unclear how many FTEs are being utilized. These core functions include permitting, enforcement, compliance inspection, education/outreach and data management activities. Based on U.S. EPA's interviews with Illinois EPA's management and staff, the U.S. EPA estimated about 1.0 FTEs being spent on core functions by the district offices. The Illinois EPA was requested to provide this information to U.S. EPA so we could determine exactly what the current resource expenditures are, what specific core functions are being performed, by whom and how often. In addition, U.S.EPA informed Illinois EPA that similar information would also be needed to substantiate their claim that they needed twenty-one additional FTEs for the new Class V well program. U.S. EPA informed Illinois EPA that Congress has frozen the funding for the UIC program at $10.5 million annually for the last ten years and no increase is expected in the near future. U.S. EPA also told Illinois EPA that other primacy state agencies having Class V program authority [i.e., Ohio and Wisconsin] are prioritizing Class V work activities based on geographical areas and wells types with the highest risk for contamination by Class V wells. They are also disinvesting in other program areas of less importance in order to free up resources to do the new Class V program work. U.S. EPA also indicated that this was the approach being used by Region 5 as well as most of the other EPA Regional offices that had responsibilities for direct implementation of the program in states not having UIC primacy

authority. The Illinois EPA's response was that they will not use this approach as they view the new Class V well program as an unfunded Federal mandate and unless additional Federal funds are forthcoming, then the Illinois EPA will do nothing more than what they are already doing.

Recommendations and Conclusions:
By November 15, 2000, the Illinois EPA needs to provide the U.S. EPA with a written program description of the procedures and process for the overall administration and coordination of their UIC program. In addition, this program description needs to identify how many FTEs are currently being spent on specific core UIC program functions identified above as well as a table of organization for the district offices showing who is being held accountable for the performance of these core UIC program functions.

2. Funding

Observations and Discussion: In Federal Fiscal Year 2000, the Illinois EPA received an annual grant of $77,400 in Federal funds to administer their UIC program. The Illinois EPA also informed U.S. EPA that they also receive funds as a result of their Environmental Protection Permit and Inspection Fund (PIF) program. The PIF program is authorized under the Illinois Environmental Protection Act, Title V: Land Pollution and Refuse Disposal. All owners or operators of any hazardous waste disposal sites or management facilities which require a RCRA permit or a UIC permit must pay a permit and inspection fee. The total funds collected in 1999 from all affected facilities were $193,000. There is a total of five Class I underground injection wells in Illinois. Of this total, four are hazardous waste injection wells and one is a nonhazardous waste injection well. Illinois EPA reported $21,000 was collected in 1999 for these four hazardous waste injection wells under the PIF program. However, the Illinois EPA stated they have decided to not use the $21,000 at this time to supplement their Federal UIC grant. According to the 1999 injection well inventory report prepared by the Illinois EPA, there are no known permitted Class III or IV injection wells in Illinois and they estimate that there are approximately 2600 Class V injection wells but indicated this number could be higher.

Recommendations and Conclusions:
It appears that adequate funding is available to manage the Class I well program. However, the U.S. EPA acknowledges the new Class V well program is significantly underfunded but the U.S. EPA recommends that a higher priority consideration be given by the Illinois EPA on providing additional funding to the UIC program through the flexibility allowed in the EnPPA. In addition, Illinois EPA needs to leverage existing resources with other program offices sharing Class V program responsibilities, such as the Illinois EPA's Office of Public Water Supply which is leading the efforts for the Source Water Assessment and Protection Program, and the Illinois Department of Public Health which has authority over certain types of Class V wells.

3. Updated UIC Primacy Program Application

Observations and Discussion:

The Illinois EPA stated that they have no intentions of updating their primacy program application to incorporate the new Class V rules. U.S. EPA was told that the Illinois Pollution Control Board automatically adopts any new Federal regulations once they are promulgated and the Board would automatically adopt the new Class V rules. However, the Illinois EPA stated that they intend to notify the Board not to adopt these rules. We were provided with a copy of all of their existing laws and regulations governing the UIC program for Class I, III, IV and V wells as follows: 1) the Environmental Protection Act dated January 2000; 2) Title 35, Parts 700 thru 720 which includes RCRA and UIC permitting programs requirements; and 3) Title 35, Parts 730 thru 738 which includes the UIC and Underground Storage Tank programs requirements.

Recommendations and Conclusions:

- By September 15, 2000, the Illinois EPA needs to provide U.S. EPA with a schedule for the submittal of their updated and complete primacy program application to include the new Class V well rule and requirements. This schedule will need to include the expected timeframe for completion of the State's Attorney General's Statement as well as other documentation prescribed by the UIC regulations at 40 CFR Part 145.22. States having UIC primacy authorities need to incorporate the new rules by December 29, 2000. If the schedule that Illinois EPA develops goes beyond December 29, 2000, then U.S. EPA will negotiate an aggressive extension agreement with the State for the additional time needed. The only item that is non-negotiable is the requirement that the Illinois EPA submit their "other sensitive ground water area plan" to U.S. EPA by December 29, 2000 and indicate in the plan if the new Class V rules will or will not apply statewide.

- By September 15, 2000, the Illinois EPA needs to also provide to the U.S. EPA a schedule leading to signed memorandums of agreements between the Illinois EPA and any other state agency with shared responsibilities for administering the new Class V well program. This schedule needs to identify proposed dates the Illinois EPA will meet with all appropriate parties to ensure signed agreements are in place by December 29, 2000.

4. Quality Assurance Management Plan (QMP)

Observations and Discussion:

The Illinois EPA submitted an agencywide draft QMP in June 2000 which included their UIC program. The Illinois EPA was informed that the draft QMP needed major improvement in describing the overall program procedures and quality system in place for the UIC program. They were also informed that formal comments are coming from U.S. EPA on the draft QMP in the very near future. The Illinois EPA acknowledged that the draft QMP was severely deficient in providing details and indicated that this was their intent to be less descriptive as possible in describing their overall quality system and program procedures.

Recommendations and Conclusions:
No action is required at this time by the Illinois EPA. Upon receipt of the U.S. EPA's formal comments, the Illinois EPA will need to respond in a timely manner in order to ensure an approved QMP is in place by the October 15, 2000, deadline.

5. Data Management

Observations and Discussion:
The Illinois EPA indicated that their UIC files are not maintained separately but are included with other program offices files such as RCRA and UST. This process of combining other program files with the UIC files made it extremely difficult to determine if significant records were present in the Central Office files or located in the district offices' files. We were told that copies of all district office files were also in the Central Office files. However, the U.S. EPA could not find important well logging data in the Central Office files for the Class I hazardous waste injection wells. The Illinois EPA indicated that they were in the process of developing a database using Microsoft Access 97 to better track the status of Class V well inventory information. However, the U.S. EPA indicated that their database appears to not be user-friendly and is limited in its ability to accurately track Class V well information.

Recommendations and Conclusions:

- By October 15, 2000, the Illinois EPA needs to provide U.S. EPA with written procedures describing the corrective steps they have taken to ensure UIC records are clearly identifiable from other program offices' records. It is suggested that UIC files be placed in color coded files to clearly distinguish them from RCRA and UST files.

- By October 15, 2000, the Illinois EPA needs to provide U.S. EPA with a schedule for developing and implementing an interactive database that is user-friendly for tracking Class I well information such as the status of permits issuance and reissuance; the status of the permittee's compliance with permit conditions, including but not limited to the frequency required for submission of mechanical integrity test results, injection well reports, monitoring well reports, and financial responsibility requirements.

- By October 15, 2000, the Illinois EPA needs to provide U.S. EPA with a schedule for developing and implementing an interactive database that is user-friendly for tracking Class V well information such as the status of submittal of the required inventory form, the type of Class V well; the date Illinois EPA conducted an on-site inspection of the well; the date the well was issued a permit or plugged; the proximity of the Class V well to public drinking water supplies; and the type of compliance assistance that was provided by the Illinois EPA to the owner and operator of the wells.

5. Reporting UIC Data Through OMB 7520 Form and Other Mechanisms

Observations and Discussion: The Illinois EPA is generally responsive to requests from U.S. EPA for UIC program data that is reported on the OMB approved 7520 form as well as annual inventory data. The Illinois EPA electronically submits UIC data only upon request from the U.S. EPA and does not automatically report as required by the schedule contained in the EnPPA. Upon receipt of the data from the Illinois EPA, this information is then transmitted electronically by Region 5 to the U.S. EPA's Office of Ground Water and Drinking Water in Headquarters. The data are important to help track current and future state needs. This in turn helps the U.S. EPA with resource allocation decisions. Currently, the number of Class I wells significantly impacts state grants, while U.S. EPA Headquarters is considering options which would increase the impact of the Class V well count. As such, it is important that the number of Class I and Class V wells be accurately identified. U.S. EPA informed Illinois EPA that a national workgroup is working on revisions to the OMB approved 7520 form to better track and report UIC program outputs and measures.

Recommendations and Conclusions:
The U.S. EPA agreed to keep the Illinois EPA informed of any changes in the state's reporting requirements as a result of the national 7520 form workgroup's effort. It is important that the Illinois EPA submit their UIC reporting data according to the schedule contained in their EnPPA. It is important that the Illinois EPA accurately identifies and reports the total number of Class I and Class V wells as resource allocations are impacted by these numbers. U.S. EPA provided Illinois EPA with the comprehensive data used by U.S. EPA Headquarters in determining the tentative FY 2001 UIC resource allocations for States and Regions. Illinois EPA needs to review this data to ensure their resource allocation is accurate and notify U.S. EPA as soon as possible should they find discrepancies.

B. PERMITTING

1. Class I Injection Well Facilities

Overall Observations and Discussion on Permitting Activities:
Prior to the on-site file audit, the U.S. EPA provided the Illinois EPA with a list of specific questions on permitting activities. During the audit, the Illinois EPA provided their responses to these questions (see Attachment 2). The Illinois EPA stated that their Central Office in Springfield, Illinois is responsible for initially writing and modifying injection well permits. Currently, all Class I injection wells in Illinois have been operating under expired permits. According to State regulations, new permit applications that are not reviewed by Illinois EPA within thirty (30) days of receipt are considered "complete applications" by default. All of the Class I injection well facilities had submitted new permit applications to Illinois EPA before their current permits expired but none had received reissued permits. The Illinois EPA indicated that they had lost a key permit writer and this contributed to the delay. However, they indicated that the permits would be reissued in the near future and that they had committed to reissuing one Class I permit in FY 2000 as part of their EnPPA. The U.S.EPA noted that Illinois EPA has performed extensive minor permit modifications of these expired Class I permits and it was not

clear from the records if these minor modifications were justified as "minor" modifications versus "major" modifications.

U.S. EPA did not have time to review each minor modification in detail but the justifications for minor modifications are few. They must be agreed to by the permittee and include:

a. Correct typographical errors;
b. Require more frequent monitoring or reporting by the permittee;
c. Change an interim compliance date, provided the new date is not more than 120 days after the date being modified;
d. Allow for a change in ownership;
e. Change quantities or types of fluids which are within the capability of the facility as permitted;
f. Change construction requirements approved pursuant to §144.52(a)(1); and
g. Amend an updated plugging and abandonment plan.

Only Item (f) above seems to leave much room for interpretation. This includes all construction requirements. The construction may be changed as long as it continues to meet the purposes of the permit. This justification would include changing the annulus pressure requirement, even if it reduces the minimum pressure requirement because the result is still effective. Revisions to make the permit agree with conditions described in the no-migration petition may or may not be allowable. Some modifications were described only as alterations to make operating parameters consistent with the descriptions in the no- migration petitions. Such changes as approving waste analysis plans and adding annual ambient reservoir pressure monitoring requirements are arguably allowable if they can be construed as more frequent monitoring.

However, the U.S. EPA does not see how changing the mechanical integrity testing (MIT) procedures, particularly when the test pressure is reduced, can be included in the list as minor permit modifications [see Cabot #2 permit]. Similarly, a change in the way specific gravity is calculated would appear not to be allowable [see Quantum permit] nor adding an approved groundwater monitoring plan with the opportunity for public review and comment [see LTV Steel permit].

Specific Observations and Discussion on LTV Steel Class I Hazardous Waste Permit:
The U.S. EPA spent much time than is reasonable searching thru the voluminous multi-program files to locate results from monitoring wells operated by LTV Steel at Hennepin, Illinois. Had the files been better organized or color coded to differentiate UIC records from non-UIC records, additional file reviews could have been performed on the other Class I hazardous waste permits. As such, the U.S. EPA was only able to review this one permit file. The most important records that were needed in the file could not be located. These records include the results of mechanical integrity testing for most of the past ten years. The permit requires radioactive tracer surveys, temperature logs, and ambient reservoir pressure monitoring be conducted each year. The U.S. EPA held a conference call with the Illinois EPA's district office located in Rockford, Illinois to try and determine if these very important documents had been received by them and reviewed. Although the district office assured us that the reports had been received,

they indicated that they did not have the expertise to analyze them and relied on self- reporting and interpretation by the operators to determine compliance. Because copies of all records are supposed to be preserved at the Central Office, there may be a problem if there is a destruction schedule for files in the district offices. Some test records, notably temperature logs and casing inspection logs, are much more meaningful when compared with past logs. If copies are not available, the accuracy of interpretations could be affected. Initially found were the reports from 1994 and 1999 and it was assumed that testing occurs only once every five years. The U.S. EPA subsequently found two logs from 1997 which were separated from any report. There were also no pressure records from the monitoring of the USDW monitoring well at the LTV site. Such monitoring would be the most effective means of determining whether there is any contamination occurring between the injection zone and the lowermost USDW.

The U.S. EPA maintains final decision authority on all land ban determinations and since the LTV well is subject to land ban restrictions, our main concern is that we found no records of the monitoring of pressure in the deep USDW monitoring well. If there were to be migration of fluid from the injection zone to the monitored lowermost USDW, it would probably be evidenced through pressure change rather than a chemistry change. The Illinois EPA permit requires pressure monitoring of the well. Illinois EPA needs to also require the permittee to submit the results of monitoring and require submission of the results of pressure monitoring for this well.

Specific Observations and Discussion on Allied Signal (Honeywell) Class I Permit :
Although the U.S. EPA did not have time to review the files for this permit, discussion was held with the Illinois EPA to determine if the well had been plugged. The Illinois EPA stated the well had been plugged but they had not formally acknowledged the plugging of the well to U.S. EPA or the permittee. The U.S. EPA informed Illinois EPA that they should evaluate the plugging and formally acknowledge that the permit has been terminated.

Recommendations and Conclusions:

- By September 15, 2000, the Illinois EPA needs to provide the U.S. EPA with a schedule for training all staff involved with the permitting and compliance inspection of Class I wells. This training schedule needs to provide dates when each employee will receive training in the interpretation of the various geophysical logs that are used to determine if fluid migration is occurring. The U.S. EPA will assist the Illinois EPA in identifying and locating training courses for their UIC permit writers and inspectors.

- By September 15, 2000, the Illinois EPA needs to provide the U.S. EPA with all reservoir pressure monitoring well data that has been received in the last five years for the LTV injection well. Illinois EPA needs to also require the permittee to submit the results of monitoring and require submission of the results of pressure monitoring for the monitoring well. When these data are received, copies need to be sent to U.S. EPA.

- By September 15, 2000, the Illinois EPA needs to provide the U.S. EPA and Allied/Signal (Honeywell) with a formal acknowledgment regarding the well status and the status of the permit. The Illinois EPA also needs to provide the U.S. EPA with the most recent information from the permittee with respect to their predictions regarding

waste migration out of the injection zone and if their prediction were accurate or not.

- By September 15, 2000, the Illinois EPA needs to provide the U.S. EPA with the attorney opinions upon which the decisions were made to incorporate all questionable minor permit modifications identified by U.S. EPA for the permits mentioned previously.

E. ENFORCEMENT AND COMPLIANCE MONITORING

Observations and Discussions (Overall):

Prior to the on-site file audit, the U.S. EPA provided Illinois EPA with a list of questions on enforcement and compliance monitoring activities. During the audit, the Illinois EPA provided their responses to these questions (see Attachment 3). The Illinois EPA stated that their Central Office is responsible for initially writing and modifying injection well permits and initiating enforcement actions. They also indicated that the district office copies the Central Office on all significant documents pertaining to Class I permit compliance and injection well monitoring activities. The Illinois EPA's Central Office staff indicated that they are not thoroughly familiar with how the district offices check for compliance. It was stated by the Central Office staff that there is one annual inspection and a review of monitoring reports conducted prior to the actual inspection. However, when U.S. EPA verified this statement with the district office staff, it was stated that there are quarterly inspections conducted and the annual inspection is the more intense inspection. The district office staff also stated that monitoring reports are reviewed as they come in and non-compliance with permit conditions is only discovered when the permittee highlights such non-compliance. The district office staff indicated that they do not routinely and independently check for non-compliance with permit conditions due to limited resources and other work priorities.

Observations and Discussions (Mechanical Integrity Testing):

The U.S. EPA reviewed the radioactive tracer survey made at LTV Steel in 1999. Each element was there, but the slug tracking did not track the slug out of the casing, so it could not be effective. The radioactive tracer survey is supposed to follow the slug past the base of the casing to see if it comes back up around the backside. One stationary test was made far above the end of the tubing and the other one was set 60 feet above the end of the tubing so that the rate of fluid movement would have to have been greater than two feet per minute to reach the detector and be detected in 30 minutes. This is minimally acceptable. Since the procedures for performing a radioactive tracer survey are part of the permit, and because the permittee failed to follow these procedures, the permittee is in violation of their permit. All Class I permit violations are considered to be significant non-compliance violations and should be reported and treated as such. In this case, the remedy would be to rerun the radioactive tracer survey according to the permit conditions. Another permit violation may have occurred if the permittee failed to notify the Illinois EPA of this permit violation. The U.S. EPA could find no record of any type of follow-up enforcement action taken by the Illinois EPA concerning these violations. The LTV Steel well is of particularly concern to the U.S. EPA because of the shallow USDW location and the small separation between the injection zone and the base of the USDWs makes increasing pressure an item of concern.

Recommendations and Conclusions:

- By October 15, 2000, the Illinois EPA needs to provide U.S. EPA with a schedule for developing and implementing an interactive database that is user-friendly for tracking Class I well information such as the status of permits issuance and reissuance; the status of the permittee's compliance with permit conditions, including but not limited to the frequency required for submission of mechanical integrity test results, injection well reports, monitoring well reports, and financial responsibility requirements.

- By October 15, 2000, the Illinois EPA needs to require LTV Steel to re-run the radioactive tracer survey (RTS) in accordance with the procedures required by the permit. Illinois EPA also needs to report the incorrectly run RTS as a significant non-compliance violation (SNC) on their next 7520 form that is reported to the U.S. EPA.

F. CLASS V INJECTION WELLS

Observations and Discussion: Prior to the on-site file audit, the U.S. EPA provided Illinois EPA with a list of questions on Class V wells activities. During the audit, the Illinois EPA provided their responses to these questions (see Attachment 4). The state indicated that they needed 21 additional FTEs to run an effective program. U.S. EPA identified the following critical areas that need to be addressed in order to have an effective program:

a. Taking a preventive approach rather than a reactive approach by identifying and targeting high risk wells through closure, permitting or use of best management practices;

b. Maintaining a strong field presence to identify and address potential threats to groundwater and drinking water posed by Class V wells;

c. Conducting an active compliance monitoring program to ensure owners and operators of Class V wells are meeting their regulatory requirements;

d. Developing and implementing strategies for building Class V well inventories by working more closely with the Illinois EPA's Bureau of Water, local municipal officials, and the Illinois Department of Health;

e. Leveraging resources with other programs and local governmental agencies; and

f. Actively conducting outreach and education to the regulated community and the general public.

Based on Illinois EPA's responses to the questions, interviews with management and staff, the U.S. EPA found their Class V program in need of major improvements in all of the above critical areas. In response, the Illinois EPA stated that they were not implementing these critical areas due to a lack of resources. They indicated that they only had resources to respond to some of the

issues which were brought to their attention by other program offices. They indicated that they do not do extensive outreach and education because they did not have the resources to address any issues that would definitely come up.

Recommendations and Conclusions:
By November 15, 2000, the Illinois EPA needs to provide U.S. EPA with a written plan describing their procedures and processes for all of the above critical areas.

ATTACHMENT 1: FINAL MINUTES OF MARCH 24, 2000 CONFERENCE CALL

Participants

Illinois EPA, Bureau of Land

-Bill Child (Bureau Director)
-Bur Filson (Class V Coordinator)
-Joyce Munie (Waste Disposal Permits/Ground Water Remediation Section Chief)

U.S. EPA, Region 5, Underground Injection Control (UIC) Branch

-Valerie Jones (UIC Branch Chief)
-John Taylor (State UIC Programs Senior Advisor/Regional Class V Expert)
-Valoria Robinson (Illinois EPA UIC Program Lead)
-Dana Rzeznick (Primacy Update Lead)

Purpose of Conference Call

The Illinois EPA requested a conference call with U.S. EPA, Region 5 to discuss state adoption of the new Class V rule and update of the state primacy package that incorporates new Class V requirements as well as a strategic plan that details how the state will implement the new rule.

Background

The Illinois EPA has regulated Class I, III, IV, and V wells since 1984. In 1992, the Illinois EPA notified the U.S. EPA of their plans to return the 1422 UIC program because of lack of resources with which to implement Class V program requirements. Subsequently, the U.S. EPA and the Illinois EPA initiated mutual efforts to transfer the UIC program and set up a Federal program. In the spring of 1994, just before Headquarters was to approve the regulations that would set-up a Federal UIC program in Illinois, the Director of IEPA negotiated directly with the Assistant Administrator for Water and determined that IEPA could possibly run a UIC program in Illinois, within reason. The U.S. EPA and the Illinois EPA negotiated the basis for an acceptable UIC program. The two parties reached agreement and the Illinois EPA received a Federal grant award to implement a UIC program for Fiscal Year 1995--the first Federal grant award since 1992.

Currently, the Illinois EPA manages four Class I wells and 2,608 Class V wells, based on their 1999 inventory, and receives an annual grant of approximately $80,000 in Federal funds. Both agencies now negotiate, under an annual performance partnership agreement, those priorities and activities that the Illinois EPA will carry out in a given year. In recent years, it has become increasingly difficult to determine which specific Class V activities the Illinois EPA will perform, due the nature of the EnPPA process.

In December 1999, the U.S. EPA finalized new rules which become effective April 5, 2000 to

regulate 2 of the 32 subclasses of Class V wells and expects to issue, over the new few years, additional regulations for other subclasses that prove to be high risk. The current final rule bans new and existing cesspools nationwide, provides additional regulation for existing automotive waste disposal wells in source water protection and other sensitive areas, and bans new construction of automotive waste disposal wells nationwide. States have the option of implementing the rule based on completion of source water assessments and include other sensitive areas or implement the rule statewide. States must submit to U.S. EPA by December 29, 2000 an updated primacy package that incorporates the new Class V rule and provides a blueprint of how the state will implement the new rule.

In February 2000, U.S. EPA, Region 5 and Headquarters held a 2-day training session on the New Class V Rule and primacy package updates. The first day of training focused on changes to the existing regulations, new requirements, and what this will mean to UIC programs in terms of implementation. Bur Filson from the Illinois EPA attended this session. The second day focused on various implementation options and steps needed to update primacy packages. Bill Child from the Illinois EPA attended this session and later requested a conference call to discuss state's conclusions based on the training.

Discussion During the Conference Call

The Illinois EPA has determined that they can no longer afford to keep the UIC program and has decided not to submit the necessary paperwork to adopt the new Class V rule and update the state's primacy package. Bill Child said he had met with the Illinois EPA Director, Thomas Skinner and Deputy Director, Bernard Killian regarding this and also met with Bureau of Water Chief, Jim Park; and Bureau of Water, Division of Public Water Supplies, Groundwater Section Manager, Rick Cobb to discuss the potential impact of not updating the primacy package for the UIC program which incorporates the new Class V rule as it relates to their programs.

The Illinois EPA receives approximately $80,000 per year in Federal funding and the state estimates that they overspend for the UIC program. They stated that the amount that they receive is so inadequate that they have not even been able to reissue the Class I permits which expired around 1992, and have only been able to process minor permit modifications for these four wells. Illinois EPA and U.S. EPA agree that no future funding increases are foreseeable. Further, U.S. EPA state capacity building efforts have not progressed and no additional funding for UIC is anticipated nationally.

The Illinois EPA presented basically two options to the Region: (1) accept the existing program or (2) initiate withdrawal actions. Under the second option, the Illinois EPA offered to continue to inspect Class I facilities only under a contract with the U.S. EPA as the state must address the same facilities under other waste disposal programs. We discussed the possibility of moving the Class V program to another area within the agency, such as the Bureau of Water, particularly since they are already involved in Class V related work as part of their ongoing source water assessment efforts. The Illinois EPA already discussed this internally and other programs refused the responsibility. Region 5 staff suggested that half of the Class V battle has been won since the Illinois Department of Public Health regulates cesspools, bans new cesspools and is in the process of phasing out existing ones. In addition, the National Enforcement Order taken against the major gas companies

requiring them to close their automotive wells several years ago may have served to increase overall awareness and close some of the automotive wells in Illinois. Both agencies agreed, however, that this does not solve the long term resource problem as there will be additional regulations and thus more requirements within the new few years.

Conclusions/Outcomes

The Region agreed to consult with Headquarters next week. Both agencies agreed to a thorough audit of the Illinois EPA UIC program sometime in May or June. The Region requested a detailed fiscal analysis that shows UIC expenditures and can be used to support IEPA's position that the UIC programs are underfunded. The audit and consultation with Headquarters should help both agencies determine future direction.

ATTACHMENT 2: PERMITTING QUESTIONS FOR ILLINOIS EPA AUDIT ON JUNE 15-16, 2000

1. All of the Class I permits issued by the Illinois EPA appear to have expired. Are the dates listed below correct for the most recently issued Class I UIC permits? Are the modifications considered to have extended the expiration dates for some period of time, if so until what dates?

	ISSUED	EXPIRED	MODIFIED
LTV Steel #1	7-6-87	8-10-92	8-3-87, 10-2-87, 7-13-90, 4-29-92
Cabot Corporation #2	2-8-88	3-16-93	12-21-93
Cabot Corporation #3	5-13-94	6-17-99	10-11-90, 5-12-99
Quantum #1	2-26-88	4-1-94	5-29-92

Response:

SITE	ISSUED	EXPIRED	MODIFIED
Cabot #2	2-8-88	3-16-93	12-21-93, 11-10-94, 4-1-97, 4-9-97, 5-12-99
Cabot #3	5-13-94	6-17-99	4-1-97, 4-9-97, 12-9-94, 2-26-96, 10-5-99
LTV Steel	7-6-87	8-10-92	8-3-87, 12-1-87, 7-13-90, 4-29-92, 8-24-92
Quantum	2-26-88	4-1-94	5-29-92, 6-5-00

Not all modifications resulted in a reissuance of the permit. Some modifications were approved as a letter sent to the applicant. Issuance of the modifications did not extend the expiration dates of the permits. However, as all renewal applications have been timely filed, the expired permits remain in effect.

2. What were the purposes of the modifications?

Response:

Cabot #2

12-21-93--Permit to add isopropanol to the wastes that may be disposed of in the well. Include pressure fall off testing in the permit, and to change so that the IEPA receives plugging documents and/or incorporate the corrosion monitoring program in the permit.

11-10-94--Added on-site generated multisource leachate (F039) from their leachate collection system and purged water from their monitoring wells to the permitted waste streams which already include F039 type wastes.

4-1-97--Changed the MIT procedures regarding pressure buildup and fall off testing to satisfy the ambient reservoir pressure monitoring requirement.

4-9-97--Added sodium sulfate to the list of wastes which may be injected.

5-12-99--Changed the annulus pressure test procedures. Allowed the annulus to be pressurized to 300 psig two of every three years and 500 psig once every 3 years. Also added wastes to the list of wastes approved for disposal in the well. The wastes were approved in previous permits but the permit was not updated to indicate the addition of the wastes.

Cabot #3
4-1-97--Changed the size of the removable choke near the bottom of the injection string.

4-9-97--Added sodium sulfate to the list of wastes which may be injected.

12-9-94--Although this has the permit number for well #2, it is labeled as a permit for well #3. I believe the permit is for well #3. Changed the cementing procedures.

2-26-96--Well #3 approved for operation.

10-5-99--Clarified the constituents in the purged groundwater and multisource leachate. Also, changed the annulus pressure testing procedures, allowing them to pressurize the annulus to 300 psi, and once every 3 years, to 500 psi.

LTV Steel
8-3-87—Corrected copy of the final permit.

12-1-87—Revised waste analysis plan.

7-13-90—Revisions to make the permit consistent with the U.S. EPA no migration petition. Clarified the injection rate, groundwater monitoring system installation, and injection zone.

4-29-92—Approved groundwater monitoring plan. Add procedures for radioactive tracer survey and ambient monitoring procedures.

8-24-92—Approved changes in the production tubing, liner, packer, monitoring tubing, submersible pump, and pressure transducer.

Quantum
5-29-92—Reservoir testing ambient pressure monitoring.

6-5-00—Upgrade recording instruments. Revise waste analysis plan. Permit transfer to Equistar Chemicals, LP. Change the method of determining specific gravity of the waste.

3. Have permit re-applications been received and, if so, when?

Response:

	RECEIVED	DATE	COMPLETE?
LTV Steel	Yes	May 1992	Yes
Cabot #2	Yes	September 1992 and	Yes
		December 15, 1998	Yes
Cabot #3	Yes	December 15, 1998	Yes
Quantum	Yes	September 1993	Yes

4. What sort of progress has been made on re-issuance?

Response: No progress.

5. Do the existing permits incorporate the most recent requirements of the UIC program?

Response: The existing permit incorporate most of the recent requirements of the UIC program. However, some requirements (such as filing a plugging and abandonment report with the Illinois Department of Public Health, instead of with the Illinois Department of Mines and Minerals) have not been incorporated.

ATTACHMENT 3: ENFORCEMENT QUESTIONS FOR ILLINOIS EPA AUDIT ON JUNE 15 -16, 2000

1. How many UIC permits does IEPA currently regulate? How many of these are expired permits?

   Response: 5 permits. All are expired. IEPA currently regulates 5 Class I permits and one Class V permit. AlliedSignal has plugged their well. This reduces the total number of Class I permits to 4.

2. Are the expired permits enforceable?

   Response: Yes. Expired permits are enforceable with timely filing of the renewal. All renewals were timely filed

3. What are the monitoring and testing requirements that these permits must abide by?

   Response: MIT testing. Monitoring of injection rate, injection pressure, annulus pressure/annulus fluid level. Waste analysis. Ambient reservoir monitoring. Annual MIT, Cement Bond Log every 5 years, limits on waste parameters and operating requirements. The FOS staff review the monitoring reports. They are not entered into a database system. During review, the reports are evaluated against regulatory requirements and permit conditions. There have been cases of permit condition exceedances. The situation is handled in a manner appropriate to the situation. No Class I wells have failed MIT in the past 5 years. LTV Steel did miss conducting the MIT on their monitoring well.

4. Who reviews these monitoring reports?

   Response: Jeff Turner, Kari Hanson, and Sean Chisek

5. Are they entered into a database system?

   Response: No

6. What items are looked for when reviewing these reports?

   Response: Whether or not the facility is in compliance. Non-compliance is handled according to the nature of the non-compliance. Some issues are resolved through less formal means, phone calls, NOV's. In cases where the owner/operator has not returned to compliance or the nature of the non-compliance is sever, the matter is referred to the

Enforcement Decision Group. From there the case may be referred to the AGO, USEPA or dropped.

7. Are there examples of violations of exceedances of permit limitations? How are these handled?

Response: Low annulus pressure. Well taken offline. Injection tubing pulled and inspected. Replacement of packer or injection tubing, if needed. Injection tubing reassembled and annulus pressure test conducted. If the well passes pressure test, the well is allowed to resume operation.

8. Has any well failed a MIT in the past five years?

Response: No Class I wells have failed MIT in the past 5 years. LTV Steel did miss conducting the MIT on their monitoring well.

9. Has any well missed its due date for demonstrating MIT in the past five years?

Response: Yes, LTV Steel. See previous response

10. What violations are handled informally and what ones are handled through a formal/penalty action?

Response: See previous response to question #6.

11. Is there an enforcement strategy that explains this?

Response: No response provided by Illinois EPA

12. Is there a penalty matrix that explains what violations receive what kinds of penalties?

Response: No response provided by Illinois EPA

13. How often are these wells inspected?

Response: The Class I wells receive an annual inspection. The hazardous waste wells may be inspected on a quarterly basis using State Funds.

ATTACHMENT 4: CLASS V INJECTION WELL QUESTIONS FOR ILLINOIS EPA AUDIT ON JUNE 15-16, 2000

A. INVENTORY

1. Since full implementation of the UIC program resumed in December 1995, approximately how many Class V wells have been added to the inventory? (Please break out by year)

   Response: You have copies of the wells added/updated since December 1995. The inventory information is obtained from the owner/operator. Inventory information has been obtained through field investigations (Compliance Assistance for example) and other programs within the Agency. No priority has been given to identifying any particular type of Class V well.

2. How was the information on these wells obtained?

   Response: Owners and operators submitted inventory form voluntarily.

3. Have there been efforts to obtain inventory through the following: (For each "yes" answer, describe the effort and how many wells were found)

   Response:
   (a) targeted mailings: **None**
   (b) public outreach: **Yes, through Clean Break compliance assistance program**
   © trade associations: **None**
   (d) record searches: **None**
   (e) field investigations or inspections: **Yes, RCRA inspections**
   (f) coordination with other programs or agencies: **Yes**

4. Has any priority been given to identifying high priority Class V wells mainly automotive, industrial, and cesspools?

   Response: No priority has been given due to lack of resources. See response to #1 above. Also, see Section 14.2 of the Environmental Act, page 32 "setback zone"

B. PERMITTING

1. Since December 1995, have any permits been issued for Class 5 wells?

   Response: On 11-5-98 a permit application was received for a Class V well. The applicant is AmerenCIPS, located in Coffeen in Montgomery County. The application proposes to inject slurried fly ash into an underground, abandoned mine. We are close to issuing a draft permit for this (hopefully by the end of June 2000).

2. If so, how many permits were issued and for what well types.

   Response: One draft permit for AmerenCIPS.

3. What types of conditions were placed on any issued permits?

   Response: See draft permit for conditions.

C. ENFORCEMENT

1. Since December 1995, have any enforcement actions been taken against a Class V well? Please describe each case including the types of actions taken and the results obtained. Include both formal and informal actions.

   Response: No enforcement action taken

2. Is SBREFA information submitted to small businesses?

   Response: No. U.S. EPA agreed to provide Illinois EPA with SBREFA information.

D. INSPECTIONS

1. Since December 1995, approximately how many Class V inspections have been conducted? Please provide a break out by well type and by year.

   Response: No formal Class V inspections have been conducted since 12/95. Field office staff has discovered UIC issues while conducting inspections through Clean Breaks. However, the main focus of the inspection was not UIC.

2. Who has conducted the inspections and how are they documented? Please provide copies of Class V inspection results.

   Response: See previous response.

3. Have any problems been identified as a result of the inspections? What follow-up was provided and how were the problems resolved?

Response: See previous response

4. Are there specific criteria for determining which wells will be inspected?

Response: Class I wells go first, then permitted Class V wells, and citizen complaints.

5. Has any priority been given to inspecting potentially endangering well types like industrial and motor vehicle waste disposal wells?

Response: No priority given to these well types

6. Were there any samples taken at any of the wells? If so, what were the samples of? Injectate? Sludge? Soil? Were any wells found to be exceeding MCLs or toxicity limits? If so, what happened to these facilities?

Response: No samples have been taken.

E. WELL CLOSURES

1. Since December 1995, approximately how many Class V wells have been closed? Please provide a break-out by well type and by year. Please also identify which of the closures were voluntary and which were required by the state.

Response: You have copies of the wells closed since 12/95

2. Were closure plans submitted and reviewed prior to closure?

Response: Not since 1995

3. Were inspections conducted during or after the closures?

Response: No inspections conducted

F. LARGE CAPACITY CESSPOOLS

1. Are large capacity cesspools (serves 20 people per day or greater) banned in Illinois?

Response: Illinois Dept. of Health has lead on these. Also, Bureau of Water [PWS].

2. If they are banned, is any known or thought to exist?

Response: Only one known to exist.

3. Would any rule changes be necessary in Illinois to implement the provisions of the Class V Rule for large capacity cesspools?

Response: Don't know. Illinois Dept. of Health and Bureau of Water would know.

4. If rule changes are needed, what plans are there to accomplish this?

Response: Don't know. See previous response

5. What agency or agencies has authority over large capacity cesspools in Illinois? If there is more than one, how is jurisdiction divided?

Response: Depends on how water is used. Illinois Dept. of Health and Bureau of Water have authority over these.

6. How do you intend to inform other agencies, local governments etc. about the ban?

Response: Not at this time due to lack of resources.

G. MOTOR VEHICLE WASTE DISPOSAL WELLS

1. Are these well currently banned, by statute or regulation, in Illinois?

Response: These are not currently banned in Illinois. A rule change would be necessary to implement the new rules as they relate to this type of well. At this time there are no plans to pursue this change at this time due to lack of resources. All of this type of well would fall under IEPA's jurisdiction. The inventory will be supplemented through submittal of the inventory information by the owner/operator. The BOW/PWS/Groundwater Section conducts the source water assessments. Any UIC issues discovered will be shared with the Bureau of Land.

2. If they are banned, is any known or thought to exist?

Response: See previous response

3. Would any rule changes be necessary in Illinois to implement the provisions of the Class V Rule for motor vehicle waste disposal wells?

Response: Yes

4. If rule changes are needed, what plans are there to accomplish this?

Response: No plans to change rules at this time due to lack of resources.

5. Do all motor vehicle waste disposal wells fall under the jurisdiction of IEPA?

Response: No

6. If not, what other agencies are involved and how will that effort be coordinated?

Response: Nothing is planned at this time due to a lack of resources.

7. How complete an inventory of these wells do you currently have?

Response: Unknown

8. What plans are there to obtain a more complete inventory?

Response: No plans at this time due to a lack of resources.

9. Will motor vehicle waste disposal wells be identified through Source Water Assessments? If so, describe the process and how they will be provided to the Bureau of Land.

Response: Yes, Bureau of Water will provide this info to Bureau of Land.

10. Does IEPA intend to implement the motor vehicle waste disposal well portion of the Class V Rule in ground water protection areas and other sensitive areas in accordance deadlines contained in the Rule, or do you intend to implement these provisions statewide?

Response: Not at this time due to lack of resources.

11. If IEPA chooses to delineate "other sensitive area," how will this delineation be done and by whom? Will a plan for these delineations be submitted to EPA by 12/29/00?

Response: Not at this time due to lack of resources.

12. What plans are there to close or permit impacted wells once the provisions of the Class V Rule take effect in an area? Will you be able to inspect all sites during or after closure?

Response: Not at this time due to lack of resources.

13. Will there be any outreach to operators and local governments to ensure that new motor vehicle waste disposal wells are not constructed? Please describe any plans.

Response: Not at this time due to lack of resources.

H. SOURCE WATER ASSESSMENT AND PROTECTION PROGRAM

1. Are Class V wells identified through source water assessments? Are they verified or just listed as potential sites (such as gas stations or industrial facilities)? If they are not verified, how is follow-up accomplished, and by whom?

   Response: Bureau of Water is doing this. Info will be shared with Bureau of land.

2. How many source water assessments have been completed, and how many Class 5 wells have been identified in these areas?

   Response: Don't know. Bureau of Water doing assessments and not local agencies.

3. How will the UIC program be made aware of the completion of source water assessments in ground water protection areas?

   Response: Bureau of Water will give this info to Bureau of Land.

I. REMEDIATION WELLS

1. How many of these wells have been identified since December 1995 and how have they been coordinated with the UIC program?

   Response: You have the number of this type of well inventoried since 12/95. The UIC aspects of remediation well use is handled through the BUREAU OF LAND/Permit Section. The remediation method is reviewed by the program regulating the cleanup activity.

2. How have the installation and closure of these wells been handled? What reviews have been conducted, and by whom?

   Response: Don't know.

J. OTHER WELL TYPES AND INITIATIVES

1. How many storm water wells are known to exist and how many more are considered likely to exist?

   Response: You have the numbers for these well types already. I believe it is 774.

2. How many agricultural drainage wells are known to exist and how many more are considered likely to exist?

   Response: You have the numbers for these well types too. I believe it is 6.

3. Has there been any effort to identify or close storm water wells or agricultural drainage wells?

   Response: There has been no effort to identify or close storm water or ag drainage wells. No problems have been identified with mine backfill wells. No other initiatives to discuss. Some of the wells identified through the Peoria/Tazewell project were inspected. Some of the facilities were found to not have an injection well at all. Others either made necessary changes to their facility to reduce/eliminate the concern or removed the well and installed a holding tank.

4. How many large capacity septic tanks and drainfields are included in the present inventory and how many more are considered likely to exist?

   Response: You have the numbers for these well types too. I believe it is 919 but could go down once Streator, IL ties into POTW

5. Are there any known problems with large capacity septic tanks and drainfields in Illinois?

   Response: Don't know.

6. How many mine backfill wells are known to exist and how many more are considered likely to exist?

   Response: See above.

7. Have any problems been identified with mine backfill wells?

   Response: See response to #3.

8. Has IEPA have any other well initiatives that you would like to discuss?

   Response: See response to #3 question.

9. What follow-up has IEPA conducted for the Peoria/Tazewell and McHenry County data provided by USEPA?

   Response: See response to #3 question.

K. OTHER AGENCIES

1. Please describe any Class V well types regulated in whole or in part by other agencies, including large capacity cesspools and large capacity septic tanks/drainfields.

   Response: Illinois Dept. of Health regulates sanitary wells and Illinois EPA Bureau of Water regulates industrial wells.

2. How is activity coordinated with this other agency? Is there a formal document such as a Memorandum of Agreement? If not, will one be negotiated in connection with the Class V Rule adoption?

   Response: No action at this time due to a lack of resources.

3. How is inventory and well closure information obtained from the other agency?

   Response: No action at this time due to a lack of resources.

4. How do you ensure that the other agency is aware of UIC requirements and properly protects underground sources of drinking water?

   Response: No action at this time due to a lack of resources.

L. EDUCATION AND OUTREACH

1. Please describe any initiatives conducted since December 1995, including any efforts in the following areas:

   Response:
   (a) mailings—**none**
   (b) newsletters—**none**
   © public announcements—**none**
   (d) trade associations—**none**
   (e) speeches/presentations ---- **June 1999, UIC coordinator spoke in southern Illinois**.

M. CITIZEN COMPLAINTS

1. Since December 1995, how many citizen complaints have been received and how have they been responded to?

   Response: The Bureau of Land receives approximately 1000 complaints/year. The Field office staff responds to these complaints. The data is not tracked such that UIC issues can be extracted from the total number

N. CLASS V RULE IMPLEMENTATION

1. How does the state intend to implement the new regulations?

   Response: There are no plans to implement the new rules at this time due to a lack of resources

2. Are current laws sufficient enough to meet the requirements of the regulations? If so, please identify them and how the UIC program intends to ensure Class V wells are properly regulated under them?

   Response: Don't know.